AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for fast GPRS in a GPRS network that includes an IPv6 layer and a MAC layer, comprising:

(a) in response to receiving a GPRS routing area update message at a mobile node, employing an adapter at a MAC layer of the mobile node to generate a router advertisement message, wherein the router advertisement message is communicated to an IPv6 layer on the mobile node;

(b) generating a care of address at the IPv6 layer on the mobile node based on a router advertisement message; and

(c) generating a Mobile IPv6 Binding Update at the IPv6 layer on the mobile node, wherein the Mobile IPv6 Binding Update comprises the generated care of address;

(d) employing the adapter at the MAC layer of the mobile node to ~~encapsulate a~~ encapsulate the Mobile IPv6 Binding Update message into a routing area request, wherein the routing area request is communicated to the GPRS network, and wherein the routing area request includes an information element associated with a predetermined routing type that is employed by the GPRS network for IP level routing with the mobile node.

2. (Original) The method of claim 1, wherein the routing area request includes signaling information for mobile IPv6 processing.

3. (Original) The method of claim 1, further comprising when the predetermined routing type in the routing area request is recognized by the GPRS network, the Mobile IPv6 Binding Update message contained in the routing area request is forwarded to a Home Agent for the mobile node.

4. (Original) The method of claim 3, further comprising delaying the forwarding of the Mobile IPv6 Binding Update message to the Home Agent until authentication by the GPRS network.

5. (Original) The method of claim 4, wherein the delaying includes delaying the sending of a Binding Acknowledgement message until a Routing Area Update Accept message is generated by an SGSN on the GPRS network.

6. (Original) The method of claim 4, wherein the delaying includes delaying the sending of a Binding Acknowledgement message until a Routing Area Update Accept message is generated by an RNC on the GPRS network.

7. (Original) The method of claim 3, further comprising when the Mobile IPv6 Binding Update message is forwarded to the Home Agent, the mobile node provides a second routing area request to the GPRS network

8. (Original) The method of claim 7, wherein the second routing area request includes a predetermined type, including one of periodic and new routing area update.

9. (Original) The method of claim 1, further comprising indicating that Mobile IPv6 processing is to be used by the GPRS network for handling the routing area request.

10. (Original) The method of claim 1, further comprising when the information element is unrecognized by the GPRS network, employing the PDP address activation process to request

IPv6 context set up on the GPRS network.

11. (Original) The method of claim 1, wherein information for care of address generation is included in the routing area request.

12. (Currently Amended) A system for fast GPRS processing in a GPRS network that includes an IPv6 layer and a MAC layer, comprising:

(a) a MAC layer module on a mobile node that generates a router advertisement message in an IPv6 format in response to receiving a GPRS routing area update message, wherein the router advertisement message is communicated to an IPv6 layer of the mobile node;

(b) the IPv6 layer module on the mobile node that generates a care of address in response to receiving the router advertisement message from the MAC layer module, and generates a Mobile IPv6 Binding Update comprising the generated care of address; and

(c) an encapsulation module at the MAC layer of the mobile node that ~~encapsulates a~~ encapsulates the Mobile IPv6 Binding Update message into a routing area request, wherein the routing area request is communicated to the GPRS network, and wherein the routing area request includes an information element associated with a predetermined routing type that is employed by the GPRS network for routing subsequent communication with the mobile node.

13. (Original) The system of claim 12, further comprising a mobile IP module that includes signaling information for mobile IPv6 processing in the routing area request.

14. (Original) The system of claim 12, further comprising a module that provides a second routing area request to the GPRS network when the Mobile IPv6 Binding Update

message is forwarded to a Home Agent.

15. (Original) The system of claim 14, further comprising a module that delays the forwarding of the Mobile IPv6 Binding Update message to the Home Agent until authentication by the GPRS network.

16. (Original) The system of claim 14, further comprising a module that provides a second routing area request to the GPRS network when the Mobile IPv6 Binding Update message is forwarded to the Home Agent.

17. (Currently Amended) The system of claim 12, wherein the GPRS network includes ~~a selected~~ at least one of GSM, CDMA, TDMA, W-CDMA, 3G-CDMA ~~and~~ or UMTS protocols.

18. (Original) The system of claim 12, further comprising a module that determines when Mobile IPv6 processing is indicated for handling the routing area request.

19. (Original) The system of claim 12, further comprising a module that includes information for care of address generation in the routing area request.

20. (Currently Amended) ~~A method~~ An apparatus for fast GPRS in a GPRS network that includes an IPv6 layer and a MAC layer, comprising:

(a) means for employing an adapter at a MAC layer of a mobile node to generate a router advertisement message in response to receiving a GPRS routing area update message at a mobile node, wherein the router advertisement message is communicated to an IPv6 layer on the mobile node;

(b) means for generating a care of address at the IPv6 layer on the mobile node based on a router advertisement message, the means for generating a care of address comprising means for generating a Mobile IPv6 Binding Update wherein the Binding Update comprises the generated care of address; and

(c) means for employing the adapter at the MAC layer of the mobile node to ~~encapsulate a~~ encapsulate the Mobile IPv6 binding update message into a routing area request, wherein the routing area request is communicated to the GPRS network, and wherein the routing area request includes an information element associated with a predetermined routing type that is employed by the GPRS network for IP level routing with the mobile node.